

# **CHEMICAL SAFETY**

## **AN OVERVIEW OF PERFORMANCE MEASURES IN THE CHEMICAL INDUSTRY**

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July 24, 1997

# CHEMICAL SAFETY

**Many companies utilize simple measures to track overall performance of safety programs.**

**Metrics include:**

- **OSHA occupational illness and injury (OII) data for rate tracking**
- **Tracking significant process safety incidents, such as explosions and fires, which reach reporting thresholds.**

# **CHEMICAL SAFETY**

**Rohm and Haas uses OII rates to track safety performance in worldwide operations.**

- **Metrics are simple to deploy**
- **Reporting criteria is uniform  
(use OSHA criteria)**
- **Belief that emphasis on driving down accident rates builds safety awareness and improves chemical process safety**

# **CHEMICAL SAFETY**

**Rohm and Haas improved OII rates across worldwide operations over the last few years.**

- CEO drives safety improvement**
- Safety awareness increased by tracking and reporting results to employees**
- Business and Operations managers include OII targets in their performance objectives**

# CHEMICAL SAFETY

**Many companies use internal reporting systems to track process safety incidents.**

- Property loss above a reporting criteria, such as \$25,000 or \$50,000**
- Loss of containment of hazardous substances**
- Near-misses with potentially disastrous impact, such as a runaway polymerization**

# **CHEMICAL SAFETY**

**Reported incidents are investigated to determine contributing factors.**

- Incident investigation techniques, such as MCSOII or Taproot<sup>®</sup> are mandated**
- Incident investigation findings are shared widely within company**
- When possible, findings are shared at “industry” forums, such as AIChE Loss Prevention Symposia**

# CHEMICAL SAFETY

**CMA members annually report number of process safety incidents meeting criteria:**

- **Fatalities or serious injuries, or**
- **Damage exceeding \$25,000 value due to fire or explosion, or**
- **Chemical release of *extremely hazardous substance* above reportable quantity as defined by SARA Title III section 302 or flammable release exceeding 5,000 lbs**

# **CHEMICAL SAFETY**

**Process Safety Code Measurement System  
provides metric for continuous improvement.**

- **Supports Responsible Care<sup>®</sup> Process Safety Code with straightforward, overall performance indicator**
- **Provides metric to support continuous improvement in process safety**



# CHEMICAL SAFETY

**Process safety can be improved by tracking incidents and assessing trends.**

- Investigate all significant incidents and near-misses to determine contributing factors or root causes**
- Share findings of incident investigations to prevent future recurrences**

# CHEMICAL SAFETY

**Process safety can be improved by learning from others' experience.**

- **Engage industry peers in dialogue on process safety through organizations like the Center for Chemical Process Safety (CCPS)**
  - *learn what didn't work as well as what did!*